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(FILE 'HOME' ENTERED AT 15:18:36 ON 18 JUN 2002)
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FILE 'HCAPLUS' ENTERED AT 15:18:48 ON 18 JUN 2002

L1 0 S ACT4H1
L2 0 S ACT4(L)H1
L3 81 S ACT(L)4(L)H1
L4 135 S ACT(L)4(L)H 1
L5 1 S ACT4 (L) H 1
L6 216 S L3-L5
L7 0 S L6 AND MAB
L8 2 S L6 AND MONOCLON?(L)ANTIBOD?
L9 2 S (ACT4 OR ACT 4) (L) (H1 OR H 1)
L10 2 S L8,L9
L11 0 S HB11483
L12 0 S HB 11483
L13 0 S HBL106
L14 0 S "HB L106"
L15 6 S "L106"
L16 1 S L15 AND MAB
L17 3 S L15 AND MONOCLON?(L)ANTIBOD?
L18 3 S L16,L17
L19 1 S L18 AND PROTEIN
L20 3 S L10,L19
E GODFREY W/AU
L21 23 S E3-E5,E7,E8
E BUCK D/AU
L22 95 S E3-E11,E19-E26
E ENGLEMAN E/AU
L23 126 S E3,E5,E8-E11
L24 3 S L20 AND L21-L23
L25 3 S L6,L15 AND L21-L23
L26 3 S L24,L25
L27 9 S L6,L15 AND (FUSION OR CHIMER? OR CLON? OR RECOMBIN? OR ENGINE
L28 2 S L26 AND L27
L29 3 S L26,L28
L30 7 S L27 NOT L29
L31 3 S RECEPTOR (L) (ACT4 OR ACT 4)
L32 2 S L31 NOT 4/SC
L33 3 S L29,L32

=> fil hcaplus

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FILE COVERS 1907 - 18 Jun 2002 VOL 136 ISS 25
FILE LAST UPDATED: 17 Jun 2002 (20020617/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> d all tot 133

L33 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2002 ACS
 AN 1997:109742 HCAPLUS
 DN 126:130362
 TI Studies of the **L106 protein** and its gene: evidence that **L106** and OX-40 are homologous
 AU **Godfrey, Wayne; Buck, David;** Harara, Marwan; Benike, Claudia; **Engleman, Edgar**
 CS UK
 SO Leucocyte Typing V: White Cell Differ. Antigens, Proc. Int. Workshop Conf., 5th (1995), Meeting Date 1993, Volume 1, 1157-1160. Editor(s): Schlossman, Stuart F. Publisher: Oxford University Press, Oxford, UK. CODEN: 63WDAC
 DT Conference
 LA English
 CC 15-2 (Immunochemistry)
 AB In this report, the authors examd. the cellular reactivity of **monoclonal antibody L106** with PBMC and B-cell and T-cell lines. In addn., the authors report the biochem. properties of the surface glycoprotein recognized by **L106** in comparison with OX-40.
 ST **L106 protein** OX40 homolog
 IT CD4-positive T cell
 Rat
 (**L106** surface glycoprotein as human homolog for rat OX-40 antigen)
 IT Glycoproteins (specific **proteins** and subclasses)
 RL: BOC (Biological occurrence); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
 (**L106**; as human homolog for rat OX-40 antigen)
 IT Antigens
 RL: BOC (Biological occurrence); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
 (OX-40, rat; **L106** surface glycoprotein as human homolog for)

L33 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2002 ACS
 AN 1995:938174 HCAPLUS
 DN 123:337455
 TI Ligand to a receptor on the surface of activated CD4+ T cells
 IN **Godfrey, Wayne; Engleman, Edgar George**
 PA Board of Trustees of the Leland Stanford Junior University, USA; Greaves, Carol Pauline
 SO PCT Int. Appl., 124 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C12N015-12
 ICS C07K014-705; C07K019-00; C07K016-28; C12N015-85; C12N005-10; C12N005-08; A61K038-17; A61K039-395; G01N033-53; G01N033-543; G01N033-68
 CC 15-3 (Immunochemistry)
 Section cross-reference(s): 3
 FAN.CNT 2
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 9521915 A1 19950817 WO 1995-GB238 19950206
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US
RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

US 6242566 B1 20010605 US 1994-195967 19940210
CA 2183066 AA 19950817 CA 1995-2183066 19950206
AU 9515836 A1 19950829 AU 1995-15836 19950206
EP 741784 A1 19961113 EP 1995-907739 19950206
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE
JP 09509826 T2 19971007 JP 1995-521040 19950206
US 6156878 A 20001205 US 1997-881033 19970623
AU 9918436 A1 19990506 AU 1999-18436 19990225
US 2001044523 A1 20011122 US 2001-804200 20010313

PRAI US 1994-195967 A 19940210
US 1993-147784 A 19931103
AU 1995-15836 A3 19950206
WO 1995-GB238 W 19950206

AB The invention relates to certain specific binding partners, in particular ligands and fragments, variants, mutants or derivs. for a **receptor** on the surface of activated CD4+ T-cells. Exemplary ligands are based on a ligand designated **ACT-4-L-h-1**. Fragments include extracellular domains of the ligand and certain binding moieties with specificity for the above-mentioned specific binding partners are also provided. Suitable binding moieties include humanized and human **antibodies** to the ligand. The invention further provides nucleic acid segments encoding and pharmaceutical compns. contg. such a specific binding partner or binding moiety as well as expression vectors and cell lines which include these. Compns. and methods comprising the specific binding partners or the binding moieties are useful for treatment of transplant rejection, graft-vs.-host reaction, autoimmune disease, inflammation, or infection by HTLV, HIV, or other infectious agent, and for monitoring activated CD4+ T-cells. In example, **monoclonal antibody** to PHA-transformed T lymphocyte was prepd. and used for identification of polypeptide **ACT-4-h-1 receptor**. Time course of **ACT-4-h-1 receptor** expression in CD4+ T cell activation, **cloning** of **ACT-4-h-1 cDNA**, anal. of **ACT-4-h-1 cDNA** sequence, prodn. of stable **ACT-4-h-1** transfectants and **fusion** protein with Ig, identification of cell types expressing ligand to **ACT-4-h-1**, **cloning** of **ACT-4-h-1** ligand cDNA, and anal. of **ACT-4-h-1** ligand sequence were performed.

ST activated CD4 T cell **receptor** ligand; immune disease
ACT4 receptor ligand; sequence **ACT4 receptor** ligand T lymphocyte

IT Antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study) (-specific immunity induction; identification and anal. of ligand to activated CD4+ T cell surface receptor and use for immune diseases)

IT Glycoproteins, specific or class
RL: BPR (Biological process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(ACT-4-L-h-1 (activated antigen CD4-pos. human T-cell receptor ligand human 1); sequence of ACT-4-h-1 CD4-pos. human T-cell receptor and its ligand ACT-4-L-h

-1 and isolation of antibodies to **ACT-4**
-L-h-1)

IT **Receptors**

RL: BPR (Biological process); PRP (Properties); BIOL (Biological study);
PROC (Process)

(**ACT-4-h-1** (activated antigen
CD4-pos. T-cell, human-1); amino acid sequence of **ACT-4-h-1** CD4-pos. human T-cell
receptor and its ligand **ACT-4-L-h-1**
-1 and isolation of antibodies to **ACT-4**
-L-h-1 for monitoring or modulating immune
response)

IT **Infection**

(agents induce; identification and anal. of ligand to activated CD4+ T
cell surface receptor and use for immune diseases)

IT **Toxins**

RL: MOA (Modifier or additive use); USES (Uses)
(conjugates; identification and anal. of ligand to activated CD4+ T
cell surface receptor and use for immune diseases)

IT **Autoimmune disease**

Immunomodulators

Immunosuppressants

Inflammation

(identification and anal. of ligand to activated CD4+ T cell surface
receptor and use for immune diseases)

IT **Protein sequences**

(of **ACT-4-h-1 receptor**
and **ACT-4-L-h-1** ligand of human
CD4+ T cells)

IT **Transplant and Transplantation**

(rejection; identification and anal. of ligand to activated CD4+ T cell
surface receptor and use for immune diseases)

IT **Lymphocyte**

(B-cell, identification and anal. of ligand to activated CD4+ T cell
surface receptor and use for immune diseases)

IT **Lymphocyte**

(T-cell, identification and anal. of ligand to activated CD4+ T cell
surface receptor and use for immune diseases)

IT **Deoxyribonucleic acid sequences**

(complementary, for **ACT-4-h-1**
receptor and **ACT-4-L-h-1**
ligand of human CD4+ T cells)

IT **Immunoglobulins**

RL: MOA (Modifier or additive use); USES (Uses)
(conjugates, identification and anal. of ligand to activated CD4+ T
cell surface receptor and use for immune diseases)

IT **Intestine, disease**

(enteritis, identification and anal. of ligand to activated CD4+ T cell
surface receptor and use for immune diseases)

IT **Transplant and Transplantation**

(graft-vs.-host reaction, identification and anal. of ligand to
activated CD4+ T cell surface receptor and use for immune diseases)

IT **Virus, animal**

(human T-cell leukemia, identification and anal. of ligand to activated
CD4+ T cell surface receptor and use for immune diseases)

IT **Virus, animal**

(human immunodeficiency, identification and anal. of ligand to
activated CD4+ T cell surface receptor and use for immune diseases)

IT **Antibodies**

RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL
(Biological study); PREP (Preparation); USES (Uses)
(monoclonal, to **ACT-4-h-1**
1 CD4-pos. human T-cell **receptor** or its ligand

**ACT-4-L-h-1 and isolation of
antibodies to ACT-4-L-h-1**

- IT 166025-61-2
RL: PRP (Properties)
(amino acid sequence; sequence of **ACT-4-h-1** CD4-pos. human T-cell **receptor** and its ligand **ACT-4-L-h-1** and isolation of antibodies to **ACT-4-L-h-1** for monitoring or modulating immune response)
- IT 170679-42-2
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence; sequence of **ACT-4-h-1** CD4-pos. human T-cell **receptor** and its ligand **ACT-4-L-h-1** and isolation of antibodies to **ACT-4-L-h-1** for monitoring or modulating immune response)
- IT 166025-60-1
RL: PRP (Properties)
(nucleotide sequence; sequence of **ACT-4-h-1** CD4-pos. human T-cell **receptor** and its ligand **ACT-4-L-h-1** and isolation of antibodies to **ACT-4-L-h-1** for monitoring or modulating immune response)
- IT 156828-73-8
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; sequence of **ACT-4-h-1** CD4-pos. human T-cell **receptor** and its ligand **ACT-4-L-h-1** and isolation of antibodies to **ACT-4-L-h-1** for monitoring or modulating immune response)

L33 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2002 ACS

AN 1995:726238 HCAPLUS

DN 123:110151

TI A **receptor**, **ACT-4**, on the surface of activated T-cells and its properties and uses

IN **Godfrey, Wayne; Buck, David William; Engleman, Edgar George**

PA Board of Trustees of the Leland Stanford Junior University, USA; Becton Dickinson and Co.

SO PCT Int. Appl., 82 pp.
CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N015-13

ICS C07K014-725; C07K016-28; G01N033-577; G01N033-68; A61K039-395;
C12N005-20; C12N005-10

CC 15-2 (Immunochemistry)

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9512673	A1	19950511	WO 1994-GB2415	19941103
W:	AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ			
RW:	KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
US 5821332	A	19981013	US 1993-147784	19931103

AU 9480652	A1	19950523	AU 1994-80652	19941103
EP 726952	A1	19960821	EP 1994-931650	19941103
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 09504693	T2	19970513	JP 1994-513094	19941103
US 6277962	B1	20010821	US 1995-472940	19950606
AU 9894138	A1	19990218	AU 1998-94138	19981126
AU 9918436	A1	19990506	AU 1999-18436	19990225
US 2001044523	A1	20011122	US 2001-804200	20010313
US 2001044522	A1	20011122	US 2001-852845	20010511

PRAI US 1993-147784 A 19931103

US 1994-195967 A3 19940210

AU 1994-80652 A3 19941103

WO 1994-GB2415 W 19941103

AU 1995-15836 A3 19950206

US 1995-472940 A1 19950606

AB **ACT-4**, a **receptor** found on the surface of activated T-cells and cDNAs encoding it and **antibodies** against it are characterized for diagnostic and therapeutic use. **ACT-4 receptors** are preferentially expressed on the surface of activated CD4+ T-cells. **ACT-4 receptors** are usually expressed at low levels on the surface of activated CD8+ cells, and are usually substantially absent on resting T-cells, and on monocytes and B-cells (resting or activated). An exemplary **ACT-4 receptor**, termed **ACT-4-h-1**, has a signal sequence, an extracellular domain comprising three disulfide-bonded intrachain loops, a transmembrane domain, and an intracellular domain. **Monoclonal antibodies** to the **receptor** were used to det. patterns and regulation of synthesis of the **receptor**. Synthesis was induced by alloantigens and a no. of other stimuli. **Cloning** of the cDNA and manuf. of the protein by expression of the cDNA or as a **fusion** protein with an Ig are described.

ST **receptor** activated T cell human; **ACT4** activated T cell

IT **receptor**; cDNA **ACT4 receptor** human

IT Plasmid and Episome
(5K-41BB-Eg1, **chimeric** gene for **fusion** protein of Ig and **ACT-4 receptor** on; **receptor ACT-4** on surface of activated T-cells and its properties and uses)

IT **Receptors**
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(**ACT-4**, activated CD4+ T-cell; **receptor ACT-4** on surface of activated T-cells and its properties and uses)

IT Plasmid and Episome
(**ACT-4-h-1-neo**, cDNA for human **ACT4 receptor** on; **receptor ACT-4** on surface of activated T-cells and its properties and uses)

IT Antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(activated T-cell; **receptor ACT-4** on surface of activated T-cells and its properties and uses)

IT Immunostimulants
Immunosuppressants
(**monoclonal antibody** to **ACT-4 receptor**; **receptor ACT-4** on surface of activated T-cells and its properties and uses)

IT Protein sequences
(of **ACT-4 receptor** of human; **receptor ACT-4** on surface of activated T-cells and its properties and uses)

- IT Antibodies
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(to **ACT-4 receptor** of activated T-cells;
receptor ACT-4 on surface of activated
T-cells and its properties and uses)
- IT Lymphocyte
(B-cell, **receptor** found on activated T-cells missing from;
receptor ACT-4 on surface of activated
T-cells and its properties and uses)
- IT Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
BIOL (Biological study); PREP (Preparation)
(G1, **fusion** products with **ACT-4**
receptor; receptor ACT-4 on
surface of activated T-cells and its properties and uses)
- IT Lymphocyte
(T-cell, CD4+, activated; **receptor ACT-4**
on surface of activated T-cells and its properties and uses)
- IT Deoxyribonucleic acid sequences
(complementary, for **ACT-4 receptor** of
human; **receptor ACT-4** on surface of
activated T-cells and its properties and uses)
- IT Antibodies
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(**monoclonal**, to **ACT-4 receptor**
of activated T-cells; **receptor ACT-4** on
surface of activated T-cells and its properties and uses)
- IT 166025-61-2
RL: BOC (Biological occurrence); PRP (Properties); THU (Therapeutic use);
BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(amino acid sequence; **receptor ACT-4** on
surface of activated T-cells and its properties and uses)
- IT 166025-60-1
RL: BOC (Biological occurrence); PRP (Properties); THU (Therapeutic use);
BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(nucleotide sequence; **receptor ACT-4** on
surface of activated T-cells and its properties and uses)

=> fil biosis

FILE 'BIOSIS' ENTERED AT 15:36:44 ON 18 JUN 2002

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FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 12 June 2002 (20020612/ED)

=> d all tot

L52 ANSWER 1 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 2002:126516 BIOSIS

DN PREV200200126516

TI **Receptor** on the surface of activated CD4-+T-cells: **ACT**
-4.

AU **Godfrey, W.; Buck, D.; Engleman, E. G.**

CS Woodside, Calif. USA

ASSIGNEE: THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY

PI US 5821332 Oct. 13, 1998
SO Official Gazette of the United States Patent and Trademark Office Patents,
(Oct. 13, 1998) Vol. 1215, No. 2, pp. 1859.
ISSN: 0098-1133.
DT Patent
LA English
NCL 530350000
CC Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Pharmacology - General *22002
Cytology and Cytochemistry - Human *02508
IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Pharmacology
IT Sequence Data
AMINO ACID SEQUENCE
IT Miscellaneous Descriptors
ACT-4 RECEPTOR POLYPEPTIDE; ACTIVATED
CD4-PLUS-T-CELLS; PHARMACEUTICALS

L52 ANSWER 2 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2001:549491 BIOSIS
DN PREV200100549491
TI Ligand (ACT-4-L) to a **receptor** on the
surface of activated CD4+ T-cells.
AU Godfrey, Wayne; Engleman, Edgar G.
ASSIGNEE: Board of Trustees of the Leland Stanford Junior University, Palo
Alto, CA, USA
PI US 6242566 June 05, 2001
SO Official Gazette of the United States Patent and Trademark Office Patents,
(June 5, 2001) Vol. 1247, No. 1, pp. No Pagination. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB The invention provides ligands and fragments thereof to a **receptor**
on the surface of activated CD4+ T-cells. An exemplary ligand is
designated ACT-4-L-h-1. Preferred
fragments include purified extracellular domains of ligands. The invention
also provides humanized and human antibodies to the ligand. The invention
further provides methods of using the ligand and the antibodies in
treatment of diseases and conditions of the immune system. The invention
also provides methods of monitoring activated CD4+ T-cells using the
ligands or fragments thereof.
NCL 530350000
IT Major Concepts
Clinical Immunology (Human Medicine, Medical Sciences); Methods and
Techniques; Pharmacology
IT Parts, Structures, & Systems of Organisms
CD4 positive T-cells: immune system
IT Chemicals & Biochemicals
ACT-4-L-h-1: CD4 positive
T-cell surface **receptor** binding, human antibodies, humanized
antibodies
IT Methods & Equipment
activated CD4 positive T-cell monitoring method: monitoring method;
immune response suppression: therapeutic method; immunosuppressive agent
screening: screening method

L52 ANSWER 3 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2001:482555 BIOSIS
DN PREV200100482555
TI **Receptor** on the surface of activated t-cells: act-
4.
AU Godfrey, Wayne (1); Buck, David; Engleman, Edgar
G.

CS (1) Woodside, CA USA
ASSIGNEE: The Board of Trustees of Leland Stanford Junior University, Palo Alto, CA, USA; Becton Dickinson and Company

PI US 6277962 August 21, 2001

SO Official Gazette of the United States Patent and Trademark Office Patents, (Aug. 21, 2001) Vol. 1249, No. 3, pp. No Pagination. e-file.
ISSN: 0098-1133.

DT Patent

LA English

AB The invention provides purified **ACT-4 receptor** polypeptides, antibodies against these polypeptides and nucleic acids encoding **ACT-4 receptor** polypeptides. Also provided are methods of diagnosis and treatment using the same. **ACT-4 receptors** are preferentially expressed on the surface of activated CD4+ T-cells. **ACT-4 receptors** are usually expressed at low levels on the surface of activated CD8+ cells, and are usually substantially absent on resting T-cells, and on monocytes and B-cells (resting or activated). An exemplary **ACT-4 receptor**, termed **ACT-4-h-1**, has a signal sequence, an extracellular domain comprising three disulfide-bonded intrachain loops, a transmembrane domain, and an intracellular domain.

NCL 530388000

IT Major Concepts
Molecular Genetics (Biochemistry and Molecular Biophysics); Clinical Immunology (Human Medicine, Medical Sciences); Methods and Techniques

IT Parts, Structures, & Systems of Organisms
CD4 positive T-cells: activated, detection, immune system

IT Chemicals & Biochemicals
ACT-4 receptor polypeptides:
antibodies, encoding nucleic acids, extracellular domains;
ACT-4-h-1: monoclonal antibodies

IT Methods & Equipment
immunosuppressive agent screening: screening method

L52 ANSWER 4 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 2001:296823 BIOSIS

DN PREV200100296823

TI Ligand (**ACT-4-L**) to a **receptor** on the surface of activated CD4+ T-cells.

AU Godfrey, Wayne (1); Engleman, Edgar G.; Buck, David

CS (1) White Bear Lake, MN USA
ASSIGNEE: The Board of Trustees of the Leland Stanford Junior University; Becton Dickinson and Company

PI US 6156878 December 05, 2000

SO Official Gazette of the United States Patent and Trademark Office Patents, (Dec. 5, 2000) Vol. 1241, No. 1, pp. No Pagination. e-file.
ISSN: 0098-1133.

DT Patent

LA English

AB The invention provides ligands and fragments thereof to a **receptor** on the surface of activated CD4+ T-cells. An exemplary ligand is designated **ACT-4-L-h-1**. Preferred fragments include purified extracellular domains of ligands. The invention also provides humanized and human antibodies to the ligand. The invention further provides methods of using the ligand and the antibodies in treatment of diseases and conditions of the immune system. The invention also provides methods of monitoring activated CD4+ T-cells using the ligands or fragments thereof.

NCL 530350000

IT Major Concepts

Methods and Techniques; Pharmacology
 IT Parts, Structures, & Systems of Organisms
 CD4-T cells: blood and lymphatics, immune system
 IT Diseases
 immune system disease: immune system disease
 IT Chemicals & Biochemicals
 ligand **ACT-4-L-h-1**: immunologic
 - drug
 IT Methods & Equipment
 activated CD4-T cell monitoring method: monitoring method

L52 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 1994:91282 BIOSIS
 DN PREV199497104282
 TI Molecular **cloning** of a cDNA encoding the human homolog of the
 rat OX-40 antigen.
 AU **Godfrey, Wayne (1); Buck, David; Harara, Marwan (1);**
 Engleman, Edgar (1)
 CS (1) Stanford Univ. Blood Cent., Palo Alto, CA USA
 SO Tissue Antigens, (1993) Vol. 42, No. 4, pp. 253.
 Meeting Info.: 5th International Conference on Human Leukocyte
 Differentiation Antigens Boston, Massachusetts, USA November 3-7, 1993
 ISSN: 0001-2815.
 DT **Conference**
 LA English
 CC Cytology and Cytochemistry - Animal 02506
 Cytology and Cytochemistry - Human 02508
 Genetics and Cytogenetics - Animal 03506
 Genetics and Cytogenetics - Human *03508
 Biochemical Studies - Nucleic Acids, Purines and Pyrimidines *10062
 Biochemical Studies - Proteins, Peptides and Amino Acids 10064
 Biophysics - Molecular Properties and Macromolecules *10506
 Biophysics - Membrane Phenomena *10508
 Blood, Blood-Forming Organs and Body Fluids - Blood Cell Studies *15004
 Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and
 Reticuloendothelial System *15008
 Endocrine System - General *17002
 Immunology and Immunochemistry - Immunopathology, Tissue Immunology
 *34508
 BC Hominidae 86215
 Muridae *86375
 IT Major Concepts
 Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport
 and Circulation); Clinical Immunology (Human Medicine, Medical
 Sciences); Endocrine System (Chemical Coordination and Homeostasis);
 Genetics; Membranes (Cell Biology)
 IT Miscellaneous Descriptors
 CD27; CD30; CD40; COMPLEMENTARY DNA; **L106 MOLECULE**; MEETING
 ABSTRACT; NERVE GROWTH FACTOR RECEPTOR FAMILY; NOVEL SUPERFAMILY;
 PERIPHERAL BLOOD LYMPHOCYTE; SEQUENCE IDENTITY; SPLENOCYTE

ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; Muridae:
 Rodentia, Mammalia, Vertebrata, Chordata, Animalia
 ORGN Organism Name
 murine (Muridae); Hominidae (Hominidae)
 ORGN Organism Superterms
 animals; chordates; humans; mammals; nonhuman mammals; nonhuman
 vertebrates; primates; rodents; vertebrates

=> fil wpix

FILE 'WPIX' ENTERED AT 15:43:45 ON 18 JUN 2002

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FILE LAST UPDATED: 13 JUN 2002 <20020613/UP>
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=> d all tot 168 abeq tech

L68 ANSWER 1 OF 2 WPIX (C) 2002 THOMSON DERWENT
AN 1995-293117 [38] WPIX
DNN N1995-221675 DNC C1995-132004
TI Ligand, ACT-4-1, to receptor on activated CD4 positive
cells - useful in treatment of various immune diseases and conditions.
DC B04 D16 S03
IN ENGLEMAN, E G; GODFREY, W; ENGLEMAN, E;
BUCK, D
PA (STRD) UNIV LELAND STANFORD JUNIOR; (GREAI) GREAVES C P; (ENGL-I)
ENGLEMAN E G; (GODFI) GODFREY W; (BECT) BECTON DICKINSON & CO
CYC 61
PI WO 9521915 A1 19950817 (199538)* EN 124p C12N015-12
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU JP KE KG
KP KR KZ LK LR LT LU LV MD MG MN MW MX NL NO NZ PL PT RO RU SD SE
SI SK TJ TT UA US UZ VN
AU 9515836 A 19950829 (199548) C12N015-12
EP 741784 A1 19961113 (199650) EN C12N015-12
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 09509826 W 19971007 (199750) 90p C12N015-02
AU 9918436 A 19990506 (199929)# C12N015-12
US 6156878 A 20001205 (200066) C07K014-705
US 6242566 B1 20010605 (200133) C07K014-435
US 2001044523 A1 20011122 (200176) C07K016-18
AU 2002010060 A 20020228 (200225)# A61K038-17
ADT WO 9521915 A1 WO 1995-GB238 19950206; AU 9515836 A AU 1995-15836 19950206;
EP 741784 A1 EP 1995-907739 19950206, WO 1995-GB238 19950206; JP 09509826
W JP 1995-521040 19950206, WO 1995-GB238 19950206; AU 9918436 A Div ex AU
1995-15836 19950206, AU 1999-18436 19990225; US 6156878 A Cont of US
1994-195967 19940210, US 1997-881033 19970623; US 6242566 B1 US
1994-195967 19940210; US 2001044523 A1 Div ex US 1994-195967 19940210, US
2001-804200 20010313; AU 2002010060 A Div ex AU 1999-18436 19990225, AU
2002-10060 20020104
FDT AU 9515836 A Based on WO 9521915; EP 741784 A1 Based on WO 9521915; JP
09509826 W Based on WO 9521915; US 2001044523 A1 Div ex US 6242566
PRAI US 1994-195967 19940210; AU 1999-18436 19990225; US 1997-881033
19970623; US 2001-804200 20010313; AU 2002-10060 20020104
REP 3.Jnl.Ref
IC ICM A61K038-17; C07K014-435; C07K014-705; C07K016-18; C12N015-02;
C12N015-12

ICS A61K038-00; A61K038-16; A61K038-21; A61K039-395; C07K016-28;
C07K019-00; C12N005-08; C12N005-10; C12N015-09; C12N015-85;
C12P021-02; C12P021-08; G01N033-53; G01N033-543; G01N033-566;
G01N033-577; G01N033-68

ICA C07H021-04

ICI C12P021-02, C12R001:91; C12P021-08, C12R001:91

AB WO 9521915 A UPAB: 19950927

A specific binding partner (sbp) for an **ACT-4** receptor polypeptide is new. The sbp is other than the monoclonal antibody (MAb) L106 produced by hybridoma HBL106 (ATCC HB11483) and it has an amino acid sequence (I) other than the 183 sequence given in the specification.

USE - The sbp is useful, in a pharmaceutical compsn. (claimed), for ex vivo therapy to modify a patient's immune response. The sbp has application in treatment of transplant rejection, GVHD, autoimmune disease, inflammation, infectious agents, HTVL infected cells or HIV. Specifically, inflammatory bowel disease (IBD) can be treated using the sbp. The sbp is also useful for screening for immunomodulatory agents able to recognise **ACT-4** (claimed). It is also useful for monitoring activated CD4- positive cells or inhibiting infection of CD4 positive cells. The binding moiety can be used to induce an immune response to a selected antigen (Ag).

Dwg.0/10

FS CPI EPI

FA AB

MC CPI: B04-E02; B04-E08; B04-F05; B04-N03; B12-K04A; B14-A01; B14-A02;
B14-C03; B14-G02D; B14-G03; D05-H09; D05-H12A; D05-H12E; D05-H14;
D05-H14B; D05-H17A4
EPI: S03-E14H; S03-E14H4

L68 ANSWER 2 OF 2 WPIX (C) 2002 THOMSON DERWENT

AN 1995-185777 [24] WPIX

DNN N1995-145444 DNC C1995-086349

TI Isolated **ACT-4** receptor from activated T-cells - also its ligands and antibodies, useful for treating diseases of the immune system.

DC B04 D16 S03

IN BUCK, D W; ENGLEMAN, E G; GODFREY, W;
BUCK, D

PA (BECT) BECTON DICKINSON & CO; (STRD) UNIV LELAND STANFORD JUNIOR; (BECT) BECTON DICKINSON CO; (BUCK-I) BUCK D; (ENGL-I) ENGLEMAN E G; (GODF-I) GODFREY W

CYC 60

PI WO 9512673 A1 19950511 (199524)* EN 82p C12N015-13

RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ

W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU JP KE KG

KP KR KZ LK LR LT LU LV MD MG MN MW NL NO NZ PL PT RO RU SD SE SI

SK TJ TT UA US UZ VN

AU 9480652 A 19950523 (199535) C12N015-13

EP 726952 A1 19960821 (199638) EN C12N015-13

R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

JP 09504693 W 19970513 (199729) 79p C12N015-09

US 5821332 A 19981013 (199848) C07K014-705 <--

AU 9894138 A 19990218 (199919) C07K014-725 <--

US 6277962 B1 20010821 (200150) C07K016-00 <--

AU 2001023233 A 20011004 (200166)# C07K014-725 <--

US 2001044522 A1 20011122 (200176) G01N033-567

ADT WO 9512673 A1 WO 1994-GB2415 19941103; AU 9480652 A AU 1994-80652 19941103; EP 726952 A1 EP 1994-931650 19941103; WO 1994-GB2415 19941103; JP 09504693 W WO 1994-GB2415 19941103; JP 1995-513094 19941103; US 5821332 A US 1993-147784 19931103; AU 9894138 A Div ex AU 1994-80652 19941103, AU 1998-94138 19981126; US 6277962 B1 Div ex US 1993-147784 19931103, US 1995-472940 19950606; AU 2001023233 A Div ex AU 1998-94138 19981126, AU 2001-23233 20010226; US 2001044522 A1 Div ex US 1993-147784 19931103, Cont

of US 1995-472940 19950606, US 2001-852845 20010511

FDT AU 9480652 A Based on WO 9512673; EP 726952 A1 Based on WO 9512673; JP 09504693 W Based on WO 9512673; US 6277962 B1 Div ex US 5821332; US 2001044522 A1 Div ex US 5821332, Cont of US 6277962

PRAI US 1993-147784 19931103; US 1995-472940 19950606; AU 2001-23233 20010226; US 2001-852845 20010511

REP 12Jnl.Ref

IC ICM C07K014-705; C07K014-725; C07K016-00; C12N015-09; C12N015-13; G01N033-567

ICS A61K038-00; A61K039-395; C07H021-04; C07K007-00; C07K014-00; C07K016-28; C07K016-34; C12N005-10; C12N005-20; C12N015-12; C12P021-02; C12P021-08; G01N033-564; G01N033-566; G01N033-577; G01N033-68

ICI C12N005-10, C12R001:91

AB WO 9512673 A UPAB: 19950626

An isolated e.g. purified, polypeptide (I) comprises: (a) an **ACT-4** receptor or extracellular domain having at least five contiguous amino acids from the 277 amino acid sequence shown in the specification and/or an antigenic determinant in common with a protein comprising the 277 amino acid sequence; or (b) an epitope specifically bindable by antibody L106.

Also claimed are: (1) an **ACT-4** ligand capable of specific binding to (I) which is an **ACT-4-h-1** receptor polypeptide; etc.

USE - (I) and its ligands or fragments, anti-**ACT-4** receptor antibodies and idiotypic antibodies are useful for treatment of transplant rejection; graft versus host disease; autoimmune diseases, such as insulin-dependent diabetes mellitus, multiple sclerosis, stiff man syndrome, rheumatoid arthritis, myasthenia gravis and lupus erythematosus; inflammation and infectious agents. In addition, the use of (I) is claimed for screening an antibody for specific binding to the same epitope as that bound by an L106 antibody, localising an epitope specifically bound by an L106 antibody, screening for immunosuppressive agents, screening for an **ACT-4** ligand and detecting a specific binding partner of **ACT-4-h-1** receptor polypeptide.

Dwg.0/8

FS CPI EPI

FA AB

MC CPI: B04-E03A; B04-F05; B04-G04; B04-G21; B04-K01; B14-C03; B14-C09B; B14-G02; B14-S01; B14-S04; D05-H09; D05-H11A1; D05-H12A; D05-H14B2; D05-H15; D05-H17A4

EPI: S03-E14H4

=> d his

(FILE 'HOME' ENTERED AT 15:18:36 ON 18 JUN 2002)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 15:18:48 ON 18 JUN 2002

L1 0 S ACT4H1

L2 0 S ACT4(L)H1

L3 81 S ACT(L)4(L)H1

L4 135 S ACT(L)4(L)H 1

L5 1 S ACT4 (L) H 1

L6 216 S L3-L5

L7 0 S L6 AND MAB

L8 2 S L6 AND MONOCLON?(L)ANTIBOD?

L9 2 S (ACT4 OR ACT 4) (L) (H1 OR H 1)

L10 2 S L8,L9

L11 0 S HB11483

L12 0 S HB 11483

L13 0 S HBL106

L14 0 S "HB L106"
L15 6 S "L106"
L16 1 S L15 AND MAB
L17 3 S L15 AND MONOCLON?(L)ANTIBOD?
L18 3 S L16,L17
L19 1 S L18 AND PROTEIN
L20 3 S L10,L19
E GODFREY W/AU
L21 23 S E3-E5,E7,E8
E BUCK D/AU
L22 95 S E3-E11,E19-E26
E ENGLEMAN E/AU
L23 126 S E3,E5,E8-E11
L24 3 S L20 AND L21-L23
L25 3 S L6,L15 AND L21-L23
L26 3 S L24,L25
L27 9 S L6,L15 AND (FUSION OR CHIMER? OR CLON? OR RECOMBIN? OR ENGINE
L28 2 S L26 AND L27
L29 3 S L26,L28
L30 7 S L27 NOT L29
L31 3 S RECEPTOR (L) (ACT4 OR ACT 4)
L32 2 S L31 NOT 4/SC
L33 3 S L29,L32

FILE 'HCAPLUS' ENTERED AT 15:30:03 ON 18 JUN 2002

FILE 'BIOSIS' ENTERED AT 15:30:40 ON 18 JUN 2002

L34 5 S L31
L35 245 S L1-L5
L36 3 S L9
L37 0 S L11-L14
L38 6 S L15
L39 253 S L34,L35,L36,L38
L40 5 S L39 AND (MAB OR MONOCLON?(L)ANTIBOD?)
L41 13 S L39 AND (FUSION OR CHIMER? OR CLON? OR RECOMBIN? OR ENGINEER?
L42 18 S L40,L41
L43 5 S L39 AND 00520/CC
L44 7 S L39 AND CONFERENCE/DT
E GODFREY W/AU
L45 57 S E3-E11
E BUCK D/AU
L46 213 S E3-E16,E21-E29
E ENGLEMAN E/AU
L47 321 S E3,E8,E12-E16
L48 5 S L39 AND L45-L47
L49 2 S L48 AND L42-L44
L50 9 S L43,L44,L48 NOT L49
SEL DN AN 2 5 6
L51 3 S L50 AND E1-E6
L52 5 S L49,L51

FILE 'BIOSIS' ENTERED AT 15:36:44 ON 18 JUN 2002

FILE 'MEDLINE' ENTERED AT 15:37:15 ON 18 JUN 2002

L53 194 S L39
L54 4 S L53 AND (MAB OR MONOCLON?(L)ANTIBOD?)
L55 190 S L53 NOT L54
L56 0 S L55 AND (GODFREY W? OR BUCK D? OR ENGLEMAN E?)/AU
L57 0 S L53 AND (GODFREY W? OR BUCK D? OR ENGLEMAN E?)/AU
L58 0 S (ACT4 OR ACT 4) (L) (H1 OR H 1)

FILE 'WPIX' ENTERED AT 15:39:28 ON 18 JUN 2002

L59 2 S L58

L60	1 S L59 AND C07K/IC, ICM, ICS
	E BUCK D/AU
L61	16 S E3, E14
	E ENGLEMAN E/AU
L62	20 S E3, E4
	E GODFREY W/AU
L63	11 S E3-E6
L64	41 S L61-L63
L65	10 S L64 AND C07K/IC, ICM, ICS
L66	6 S ACT4 OR ACT 4
L67	2 S L66 AND L64
L68	2 S L60, L67
L69	4 S L66 NOT L68

FILE 'WPIX' ENTERED AT 15:43:45 ON 18 JUN 2002